

Appl. No.: 10/786,947
Amendment dated June 22, 2007
In Reply to the Office Action of April 17, 2007

MAT-226US
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Remarks/Arguments:

Claims 1-27 are presently pending with claims 1-7, 9-13, 18, 20, 21, and 26 rejected. Claims 8, 14-17, 19, 22-25 and 27 are objected to, but have been identified in Section 7 of the Office Action as including allowable subject matter if rewritten in independent form including all limitations of their base claim and any intervening claims. Applicants have herein amended claims 10 and 13, and canceled claim 14. Applicants respectfully request reconsideration of the rejected claims in view of the above amendments and the following remarks.

Section 1 of the Office Action recites that "Claim 10 is objected to because ... the term 'summing circuits' should be changed to --summing circuit--." Applicants herein amend claim 10 such that the term "summing circuits" is changed to "summing circuit." As claim 10 has been amended as suggested in the Office Action, applicants requests that the objection to claim 10 be withdrawn.

Section 3 of the Office Action recites that "Claims 1-6, 13, 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Nakache et al. (US 2004/0156504 A1)," (Nakache). Claim 1 includes at least one feature that is not disclosed, taught, or suggested by Nakache. Claim 1 is directed to a method for generating wideband signals for transmitting source data, the wideband signals including wideband signal pulses and having reduced discrete power spectral density components. The method of claim 1 includes the following features:

pulse modulating the source data;

repeating and time hopping pulses within the pulse modulated source data;

selectively inverting the polarity of the repeated and time hopped pulses; and

modulating the wideband signal pulses with the selectively inverted pulses.

This means that source data is pulse modulated. The pulse modulated source data is then repeated and time hopped. The repeated and time hopped pulses are then selectively inverted for modulation onto wideband signal pulses.

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Nakache fails to disclose, teach, or suggest at least the feature of repeating and time hopping pulses within the pulse modulated source data. The Office Action indicates that this feature is disclosed at col. 6, lines 22-30, which are reproduced below.

FIG. 9 shows a system and method 900 for eliminating spectral lines in a dithered UWB signal according to the invention. The system includes a pulse generator 910, a modulator 920, and an inverter 930 coupled serially to an antenna 931. Generate pulses are dithered in time 920, i.e., by a time hopping sequence for multiuser access and by PPM for modulation, according to data symbols 940, and the polarity of resultant pulses are inverted according to a pseudo random number (PRN) 950.

This passage, however, is devoid of repeating pulses. Likewise, the remainder of Nakache is devoid of this feature. Accordingly, Nakache fails to disclose, teach, or suggest the feature of repeating and time hopping pulses within the pulse modulated source data. As Nakache fails to disclose, teach, or suggest every element of independent claim 1, applicants contend that independent claim 1 is allowable over Nakache and respectfully request that the rejection of claim 1 be withdrawn.

Claim 4, while not identical to claim 1, includes features similar to the features discussed above with respect to claim 1. Accordingly, applicants contend that claim 4 is allowable for at least the reasons that claim 1 is allowable. Accordingly, applicants respectfully request that the rejection of claim 4 be withdrawn.

Claims 2 and 3 depend directly from claim 1 and claims 5 and 6 depend directly from claim 4. As discussed above, claims 1 and 4 are allowable over Nakache. Accordingly, applicants contend that claims 2, 3, 5, and 6 are also allowable over Nakache and respectfully request that the rejection of claims 2, 3, 5, and 6 be withdrawn.

Claim 13 has been amended to include the features of claim 14, which was identified in the Office Action as including allowable subject matter. Accordingly, applicants contend that claim 13 is now allowable and respectfully request that the rejection of claim 13 be withdrawn.

Claim 18 depends from 13. As discussed above, claim 13 is allowable over Nakache and, thus, applicants contend that claim 18 is allowable over Nakache for at least this reason. Accordingly, applicants respectfully request the rejection of claim 18 be withdrawn.

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Section 5 of the Office Action recites that "Claims 7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakache et al. in view of Welborn et al. (US 2003/0165184 A1)," (Welborn). Claim 7 includes at least one feature that is not disclosed, taught, or suggested by Nakache in view of Welborn. Claim 7 is directed to a method for processing a wideband signal carrying a data signal having randomly inverted pulses in which the randomly inverted pulses are generated from source data that is pulse modulated, repeated, and time hopped. The method of claim 7 includes the following features:

- receiving the data signal carried by the wideband signal;
- sampling the received data signal at time hopped positions;
- selectively inverting the pulses within the received data signal;
- summing corresponding repeated pulses within the received data signal after sampling and inverting; and
- deriving the source data from the summed pulses.

This means that a wideband signal carrying a data signal is received where the data signal has randomly inverted pulses that are pulse modulated, repeated, and time hopped. The received data samples are sampled at time hopped positions and the pulses are selectively inverted. Repeated pulses within the received data signal are then summed and the source data is derived from the summed pulses.

Nakache in view of Welborn fails to disclose, teach, or suggest at least the step of summing corresponding repeated pulses within the received data signal after sampling and inverting. As discussed above, Nakache fails to disclose, teach, or suggest repeating pulses, let alone summing corresponding repeated pulses within received data signals. Welborn, likewise, fails to disclose, teach, or suggest this feature. As neither Nakache or Welborn disclose, teach, or suggest "summing corresponding repeated pulses within the received data after sampling and inverting," applicants contend that claim 7 is allowable over Nakache in view of Welborn and respectfully request that the rejection of claim 7 be withdrawn.

Claim 9 depends directly from claim 7 and includes all the limitations thereof. Accordingly, applicants contend that claim 9 is allowable over Nakache in view of Welborn for at least the reasons discussed above with respect to claim 7. Applicants respectfully request that the rejection of claim 9 be withdrawn.

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Section 6 of the Office Action recites that "Claims 10-12, 20-21, 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mo et al. (US 2004/056504 A1) in view of Miller et al. (U.S. Pat. 6,834,073)." Applicants note that Mo was published August 12, 2004, which is after the filing date of the instant application. Thus, Mo is a 35 U.S.C. § 102(e) reference. Additionally, the instant application and Mo were both subject to an obligation of assignment to Matsushita Electric Industrial Co., Ltd. at the time the subject application was filed. Accordingly, the rejection is improper and applicants respectfully request that the rejection of claims 10-12, 20-21, and 26 be withdrawn.

In view of the above amendments and remarks, applicants respectfully submit that the application is in condition for allowance. Accordingly, applicants request early notification of the allowance of the instant application.

Respectfully submitted,

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The Director is hereby authorized to charge or credit Deposit Account No. 18-0350 for any additional fees, or any underpayment or credit for overpayment in connection herewith.

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office (571-273-8300) on June 22, 2007.


Kathleen P. Carney